MAKARENKO, D. Ye.

MAKARENKO, D. Ye. - "The molluscs of the Lower Tertiary deposits of the northwestern portion of the Ukrainian crystalline massif". Kiev, 1955. Acad Sci Ukrainian SSR. Inst of Geological Sciences. (Dissertation for the degree of Candidate of Geologicomineralogical Sciences.)

SO: Knizhnaya Letopis' No. 46, 14 November 1955. Moscow

MAKARENKO, D.Ye.

New finds of Nautilidae in lower tertiary deposits of the Ukrainian S.S.R. Dop.UN URSR no.2:162-168 '56. (MLRA 9:12)

1. Institut geologichnikh nauk Akademii nauk URSR. Predstavleno akademikom Akademii nauk USSR V.G. Bondarchukom.
(Ukraine--Tetrabranchiata, Fossil)

MAKARENKO, D.Ye.; ZELINS'KA, V.O.

Discovery of fauna in deposits of the Poltavian stage in the Kiev environs. Geol.zhur. 16 no.1:72-74 '56. (MLRA 9:8)
(Kiev--Paleontology, Stratigraphic)

MAKARENKO, D.Ye.

Crab remains from paleogene deposits in the Crimea. Geol.zhur. 16 no.3:74-76 '56. (MLRA 9:11)
(Crimea--Crabs, Fossil)

AUTHOR: Makarenko, D.Ye. 21-1-13/26

TITLE: On the Stratigraphy of Paleogene Deposits in the Olevsk District of the Zhitomir Region (K stratigrafii paleogenovykh otlozheniy Olevskogo rayona, Zhitomirskoy oblasti)

PERIODICAL: Dopovidi Akademii Nauk Ukrains'koi RSR, 1958, # 1, pp 59-61 (USSR)

ABSTRACT: In connection with the search for alluvial deposits in the northern part of the Ukrainian crystalline shield which has been carried out during recent years, the problem of the stratigraphy of Paleogene deposits becomes more and more important. In 1952, during a geologic survey, Upper-Eocene deposits were discovered at the village of Zamyslovichi. In 1956, the Pergi geologic-prospecting team of the USSR Ministry of Non-Ferrous Metallurgy detected new locations with marine Paleogene deposits. The study of these deposits enabled the author of the present article to establish their stratigraphic classification. Marine Paleogene deposits of the Kiyev and Khar'kov series were discovered in the Olevsk district, where small islands overlie the erosional crust of crystalline rocks and underlie Quaternary deposits.

The deposits of the Kiyev series, discovered in the

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On the Stratigraphy of Paleogene Deposits in the Olevsk District of the Zhitomir Region

vicinity of the villages Pergi and Yurovo, are represented by siliceous glauconitic sandstones with mollusk fauna in the form of the cores and imprints of the following fossils: Spondylus cf. bifrons Munst., Pseudamussium corneum Sow., Pecten sp. indet., Cardita sp. indet., Tomyris ucrainae Mich. These sandstones are replaced by heterogranular glauconitic sands at their lower boundary.

The deposits of the Khar'kov series were discovered southwest of the village Rudnya Perzhanskaya. They were associated with a buried valley, and consist of green glauconitic, micaceous sands containing no fauna. They overlie continental clays and erosional crust.

The article contains 1 geologic columnar section and 1 Ukrainian reference.

ASSOCIATION: Institute of Geological Sciences (Instytut heolohichnykh nauk) of the Ukrainian Academy of Sciences

PRESENTED: By Academician of the Ukrainian Academy of Sciences V.G.(V.H.) Bondarchuk

Card 2/3

21-1-13/26

On the Stratigraphy of Paleogene Deposits in the Olevsk District of the Zhitomir Region

SUBMITTED: 18 March 1957

AVAILABLE: Library of Congress

Card 3/3 1. Geology 2. Paleoecology

AUTHOR: Makarenko, I.Ye.

TITLE: Paleogene deposits of the Village of Krasnaya [illegible], Staromlinovskiy Ra on, Stalino Oblast' (Paleogenovyye otlozheniya sela Krasnoy Polyany, Staromlinovskogo rayona, Stalinskoy oblasti

PERIODICAL: Doklady Akademii nauk Ukrainskoy SSR, 1956, No 3, pp 292 - 294 (USSR)

ABSTRACT: A nautilus cast was found by A. I. Kurinnoy, a scientific worker of the Nauchno-issledovatel'skiy gorno-promyshlennyy institut zolota (Research Institute of Gold Prospecting (Moscow), in an outcrop of gravelly, sandy-clayey beds at the village of Krasnaya Polyana on the Mokryye Yaly river. In the author's opinion, it belongs to the species Nautilus ucrainicus Makar. Casts of this mollusk are frequently encountered in Upper Eocene deposits of the Ukrainian crystalline shield. The new site of Paleogene deposits within the Konka-Kalmius depression outlines more correctly the extent of the Upper Eocene sea. Yellow sandstones, known in literature as containing poorly preserved mollusk fauna, are of the same age as the sands containing the nautilus. The au-

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Paleogene Deposits of the Village of Krasnaya Polyana, Starobin Rayon, Stalino Oblast'

thor discovered Lusitoria tricostata ..., which was described for the first time by V. I. Solodkevich [Ref. 4], in the Pologi sandstones. This species was first found in the Upper Eocene deposits of the Luganchik river in the outskirts of the Donbass. Hence the author concludes that the Pologi sandstones are also of Upper Eocene age. There are 8 Soviet references.

ASSOCIATION: Institut geologicheskikh nauk AN UkrSSR (Institute of Geological Sciences of the AS UkrSSR)

PRESENTED: By Member of the AS UkrSSR, V. I. Bondarchuk

SUBMITTED: March 13, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration

1. Geology 2. Geological time--Determination 3. Paleontology

Card 2/2

AUTHOR: Makarenko, D.Ye. SOV/21-58-10-20/27

TITLE: The First Find of Pleurotomaria Tadgikistanica Miron. in Tenetian Stage Deposits of the Crimea (Pervaya nakhodka Pleurotomaria tadgikistanica Miron. v otlozheniyakh Tenetskogo yarusa Kryma)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 10, pp 1114-1116 (USSR)

ABSTRACT: Pleurotomaria tadgikistanica Miron. was discovered in the Tenetian stage deposits of the Crimea (at the village of Tankovoye on the right bank of the Bel'bek, at the village of Ushchel'noy on the right bank of the Kachi, at the village of Alëshino on the left bank of the Bodrak). This species makes it possible to correlate the deposits of the Tenetian stage of the Crimea with the Bukhara stage of Central Asia. This gastropod was found by L.V. Mironova for the first time in deposits of the Central Asian Buhkara stage but was not described in literature; in a book by I.A. Korobkov [Ref 2] there is only 1 photo of this species taken from Mironova's data. The present paper

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The First Find of Pleurotomaria Tadgikistanica Miron. in Venetian Stage Deposits of the Crimea

gives the first paleontological description of this species. There are 2 photos and 3 Soviet references.

ASSOCIATION: Institut geologicheskikh nauk AN UkrSSR (Institute of Geological Sciences of the AS UkrSSR)

PRESENTED: By Member of the AS UkrSSR, V.G. Bondarchuk

SUBMITTED: March 19, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Geology--USSR 2. Biology 3. Paleoecology

MAKARENKO, D.

Session of the Department of Geological and Geographical Sciences of the Academy of Sciences of the Ukrainian S.S.R. Geol. zhur. 18 no.1:108-109 '58. (MIRA 11:5)
(Geology) (Geography)

MAKARENKO, D.Ye.

Review of the stratigraphic position of the Lettorian stage in Germany. Geol. zhur. 18 no. 2:100-103 '58. (MIRA 11:7)
(Germany--Geology, Stratigraphic)

1(5) SOV/21-59-5-13/25

AUTHOR: Makarenko, D.Ye.

TITLE: Inkerman Deposits of the Monsian Stage

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 5, pp 508-512 (USSR)

ABSTRACT: In the Ukraine, the faunistically identified deposits of the Monsian stage are known only in the Crimea. The most complete Monsian section with all its lithological varieties is located at the Inkerman Monastery, at Sevastopol', where it is about 30 m thick. The author lists three lithological varieties of that section. Another body of the Monsian stage is located at the village of Tankovo, on the Bel'bek river, where it is about 2 m thick. However, its mollusk fauna is not as well preserved as that at the Inkerman Monastery. The Inkerman deposits of the Monsian stage are faunistically identified as typical for the southern part of the USSR. Inasmuch as the mollusk fauna is closer to the Tertiary than to the

Card 1/2

Inkerman Deposits of the Monsian Stage

Cretaceous fauna, the Monsian stage should be considered as a lower palaeogene subdivision. About 70% of the mollusk species found in the Monsian stage deposits in the Crimea are similar to those found in Western Europe. This being so, the author makes an assumption that in the Monsian era there might have been a sea connection between Western and Eastern Europe. There is 1 cross section and 4 Soviet references.

ASSOCIATION: Institut geologicheskikh nauk AN UkrSSR (Institute of Geological Sciences of the AS UkrSSR)

PRESENTED: By V.G. Bondarchuk, Member of the AS UkrSSR

SUBMITTED: January 7, 1959

MAKARENKO, D.Ye. [Makarenko, D.IE.]

Paleocene deposits of the northwestern part of the Ukrainian crystalline shield. Geol.zhur. 19 no.1:47-56 '59.
(MIRA 12:2)

(Ukraine--Sediments (Geology))

3(0)

AUTHOR: Makarenko, D. Ye. SOV/20-124-1-54/69

TITLE: The First Find of Nerinea Inkermanica sp. n. From the Monskiy Stage of the Crimea (Pervaya nakhodka Nerinea inkermanica sp. n. iz monskogo yarusa Kryma)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 191-192 (USSR)

ABSTRACT: The author found the new mollusk species mentioned in the title in loosely consolidated, yellow Paleocene limestone in the vicinity of the city Inkerman. This stands in contradiction to the widespread opinion that the family Nerineidae Zittel occurs only in the Mesozoic. In addition to this new species mollusk remains characteristic of the Monskiy Stage were found. A second occurrence of remains of this new species was found during a Paleocene excursion of the Otdel geologo-geograficheskikh nauk AN SSSR (Department of Geological-Geographical Sciences of the AS USSR) in similar limestones of the Monskiy Stage. Consequently, it is to be found everywhere in the Crimea where sugary, yellow limestones of the Monskiy Stage occur.

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The First Find of Nerinea Inkermanica sp. n. From the Monskiy Stage of the Crimea

SOV/20-124-1-54/69

If one considers the sediments of this Stage as the lowermost Paleogene member, as most research workers do, then the distribution boundary of Nerineidea will be transferred from Mesozoic into the Cenozoic. In conclusion the new species is described and illustrated (Fig 1). The most closely related form is Nerinea genesha Neutl. from the Maastrichtian of India (Ref 1). It is probable that the Nerinea species, which inhabited the Upper Cretaceous and Lower Tertiary Tethys seas, were distributed only in the southern seas, in the region of India and adjoining lands, before the decline of their existence. There are 1 figure and 1 reference.

ASSOCIATION: Institut geologicheskikh nauk Akademii nauk USSR (Institute for Geological Sciences of the Academy of Sciences, UkrSSR)

PRESENTED: July 24, 1958, by S. I. Mironov, Academician

SUBMITTED: June 23, 1958

Card 2/2

AYZENVERG, D.Ye. [Aizenverg, D.IE.]; BARANOVA, N.M.; VEKLICH, M.F.; GOLYAK, L.M. [Holiak, L.M.]; GORAK, S.V. [Horak, S.V.]; DIDKOVSKIY, V.Ya. [Didkovs'kyi, V.IA.]; ZELINSKAYA, V.O. [Zelins'ka, V.O.]; ZERNETSKIY, B.F. [Zernets'kyi, B.F.]; KAPTARENKO-CHERNOUSOVA, O.K.; KRAYEVA, Ye.Ya. [Kraieva, IE.IA.]; KRASHENINNIKOVA, O.V.; KUTSIBA, A.M.; LAPCHIK, T.Yu.; MAKARENKO, D.Ye.; MOLYAVKO, G.I. [Moliavko, H.I.]; MULIKA, A.M.; PASTERNAK, S.I.; PERMYAKOV, V.V.; ROMODANOVA, A.P.; ROTMAN, R.N.; SLAVIN, V.I.; SOKOLOVSKIY, I.L.; SOROCHAN, O.A.; SYABRYAY, V.T.; TKACHENKO, T.O.; SHUL'GA, P.L. [Shul'ha, P.L.], doktor geol.-mineral.nauk; YAMNICHENKO, I.M. [IAmnychenko, I.M.]; BONDARCHUK, V.G. [Bondarchuk, V.H.], akademik, otv.red.

[Atlas of paleogeographical maps of the Ukrainian and Moldavian S.S.R. with lithofacies elements. Scale 1:2,500,000] Atlas paleogeograficnnykh kart Ukrains'koi i Moldavs'koi RSR z elementamy litofatsii. Masshtab 1:2,500,000. Sklaly D.IE. Aizenverg i dr. Za zahal'nym kerivnytstvom V.N.Bondarchuka. Kyiv, 1960. xvi p., 78 col.maps. (MIRA 13:12)

1. Akademiya nauk USSR, Kiyev. Institut geologicheskikh nauk. 2. Institut geologicheskikh nauk AN USSR (for all, except Bondarchuk, Pasternak, Slavin). 3. Instytut geologii korysnykh kopalyn AN URSR (for Pasternak). 4. Moskovskiy gosudarstvennyy universitet im. Lomonosova (for Slavin).
(Ukraine--Paleogeography--Maps) (Moldavia--Paleogeography--Maps)

MAKARENKO, D.Ye [Makarenko, D.IE.]

Stratigraphic division of the Maikop sediments in the Crimea. Geol. zhur. 21 no.3:93-97 '61. (MIRA 14:7)

1. Institut geologicheskikh nauk AN USSR.
(Crimea--Geology, Stratigraphic)

ZERNITSKIY, B.F.; MAKARENKO, D.Ye.

Zone with Variamussium fallax Korob. in the Paleogene of the Crimean-Carpathian area. Dokl. AN SSSR 139 no.4:950-951 Ag '61. (MIRA 14:7)

1. Institut geologicheskikh nauk AN USSR. Predstavlyno akademikom A.L. Yanshinym.
(Uzhok region--Paleontology, Stratigraphic)
(Tarkhankut, Cape--Paleontology, Stratigraphic)

MAKARENKO, D.Ye. [Makarenko, D.IE.]

Stages of the Paleogene system in the European part of the U.S.S.R.
Geol.zhur. 23 no.3:120-121 '63. (MIRA 16:9)

1. Institut geologicheskikh nauk AN UkrSSR.
(Geology, Stratigraphic)

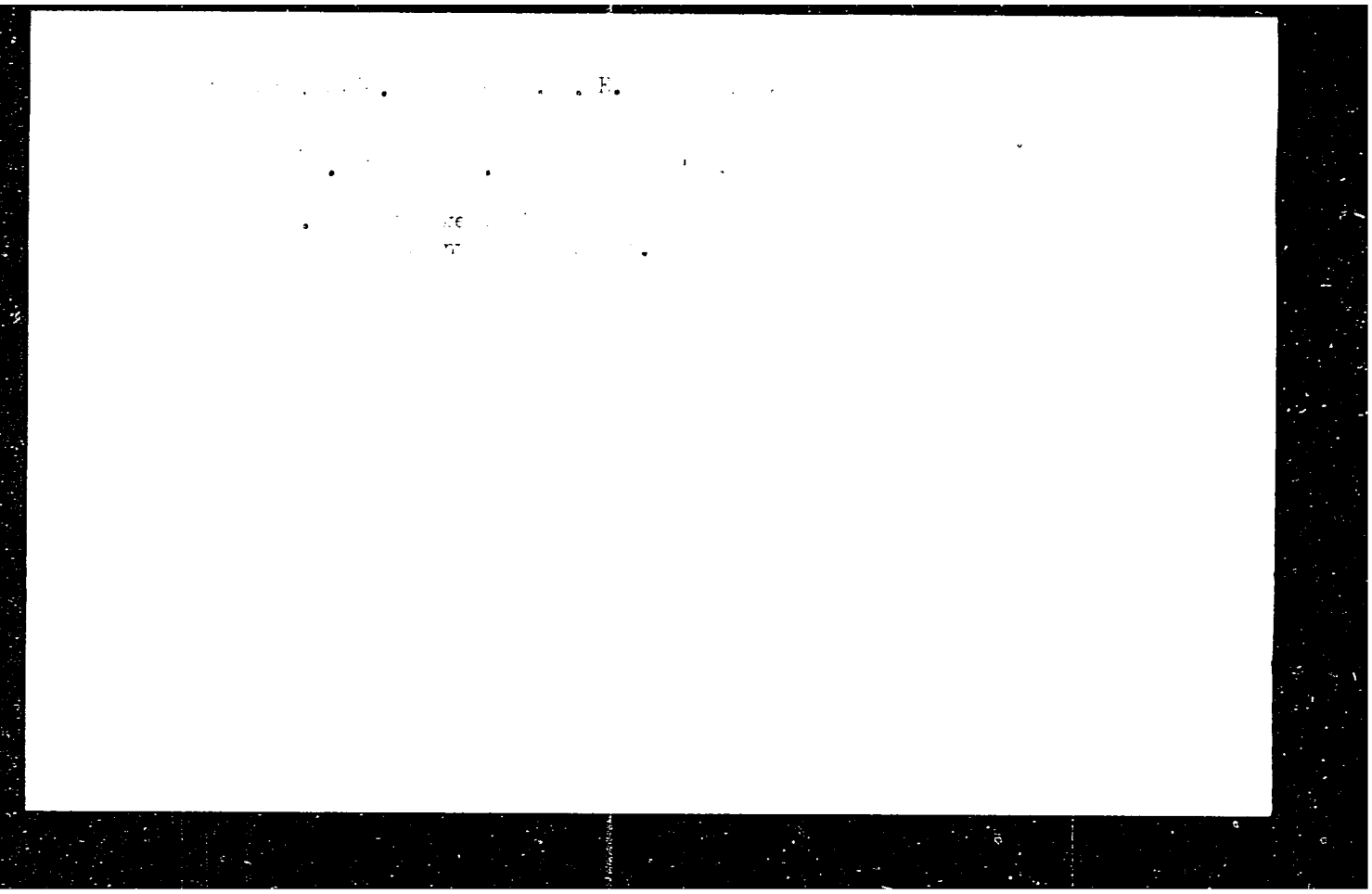
MAKARENKO, D.Ye. [Makarenko, D.IE.]; ZELINSKAYA, V.O. [Zelins'ka, V.O.]

Conference on Paleogene stratigraphy. Geol. zhur. 23 no.5: 108-110 '63. (MIRA 16:12)

MAKARENKO, D. Ye. [Makarenko, D. IE.]

Some new and little known mollusks from Paleozoic sediments of the U.S.S.R. Geol. zhur. 23 nr.1 [illegible] (MIRA 16:6)

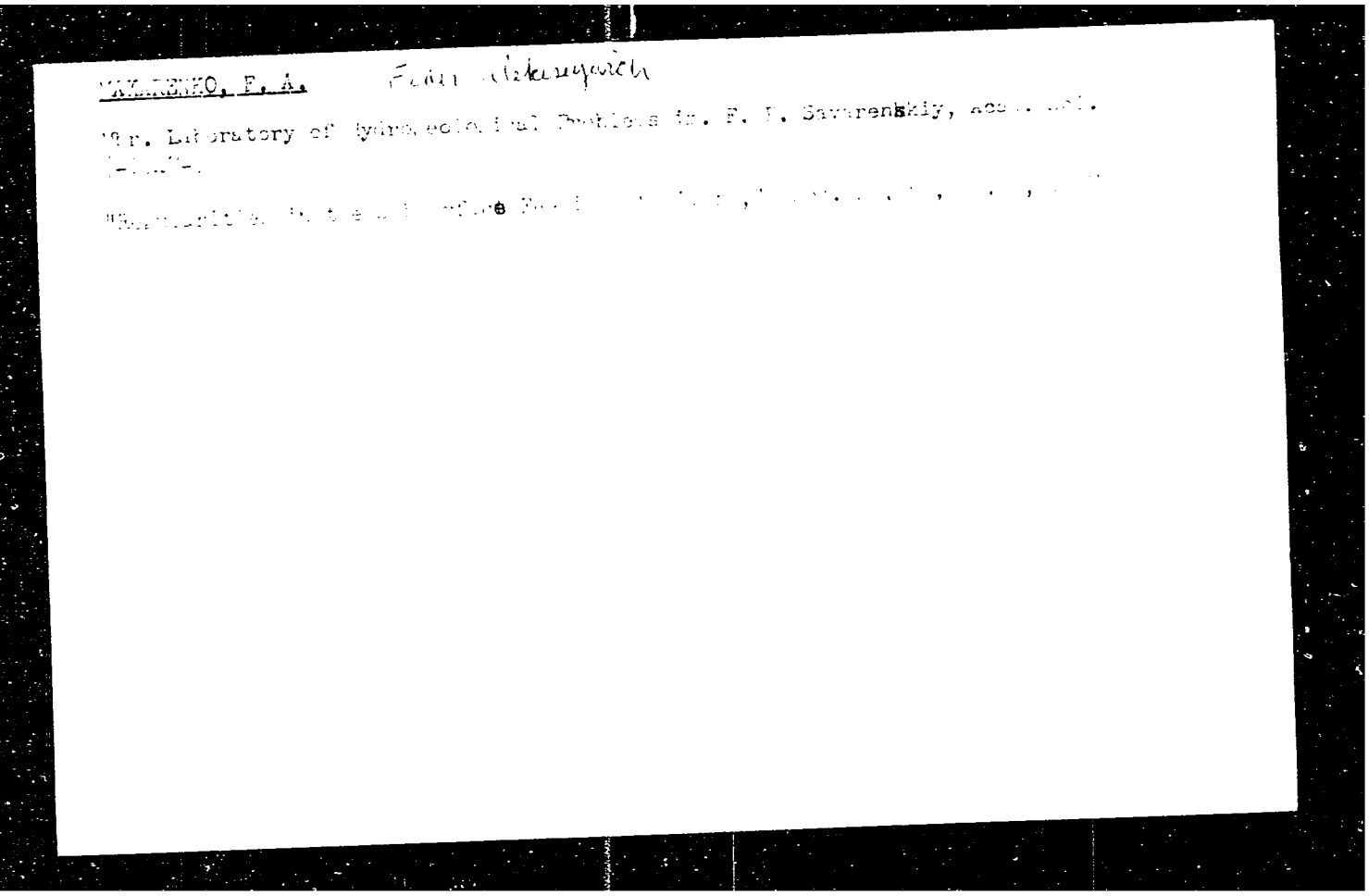
1. Institut geologicheskikh nauk AN USSR.



MAKARENKO, F.

Status of young activists. Voen.znan. 25 no.6:2 Je '49.
(MIRA 12:1)

1. Zaveduyushchiy voyenno-fizkul'turnym otdelom Tatarskogo obkoma Vsesoyuznogo Leninskogo kommunisticheskogo soyuza molodezhi.
(Tatar A.S.S.R.--Military education)



MAKARENKO, F.A.

Some results of studying underground flow. Trudy Lab.gidrogeol. probl. 1:51-66 '48. (MLRA 9;9)

(Water, Underground)

MAKARENKO, F.A.

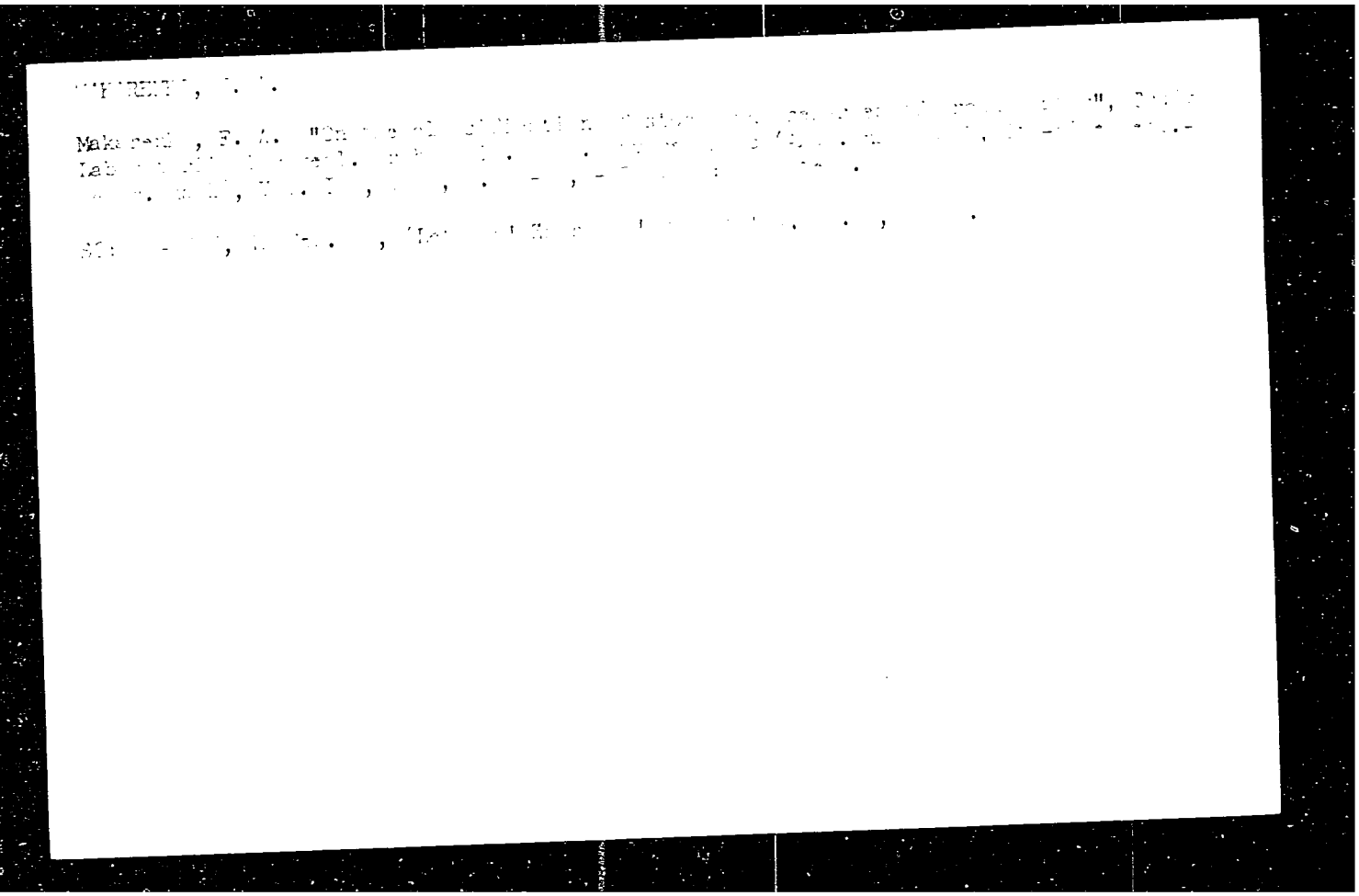
Underground feeding of rivers. Trudy Lab.gidrogeol.probl. 1: 67-71 '48. (MLRA 9:9)

(Rivers) (Water, Underground)

MAKARENKO, F.A.

Geothermal conditions in the Caucasian mineral water region.
Trudy Lab.gidrogeol.probl. 1:171-211 '48. (MLRA 9:9)

(Caucasus--Mineral waters)
(Caucasus--Earth temperature)



MAKARENKO, F. A.

Mbr., Lab. of Hydrogical Problems im. F. P. Savarenskiy, Dept. Geol-Geog. Sci., Acad. Sci., -c1950-.

Hydrology.

"Caucasian Mineral Waters,"

SO: Vest. Nauk SSSR, No. 7, 1948;

"Determination of the Modulus and Mapping of Ground-Water Resources,"

SO: Dok. AN, 74, No. 5, 1950.

MAKARENKO, F.A.

The genesis of the hydrogen sulfide waters of Matsesta. Trudy Lab. Gidrogeol. Problem im. F.P. Savarenskogo, Akad. Nauk S.S.S.R. 2, 3-45 '49. (MLRA 5:9)
(CA 47 no.15:7701 '53)

1. MAKARENKO, F. A.

2. USSR (600)

4. Water, Underground

7. Circle-diagram graph for processing hudrogeological data. Trudy Lab. gidrogeol. probl 6, 1949.

9. Monthly List of Russian Accessions, Library of Congress, March 19[illegible]. Unclassified.

USSR/Geophysics - Hydrology 11 Oct 50
Ground Water

"Determination of the Modulus and Mapping of Ground-Water Resources," F. A. Makarenko, Lab of Hydrogeol Problems imeni F. P. Savarenskiy, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXIV, No 5, pp 1007-1010

Contends method of expressing natural ground-water resources, in contrast to ground-water stores (total vol in seam or level), in moduli of subsurface runoff (discharge in l/sec of ground water from area of 1 sq km) is only method permitting accurate mapping. Present method is inaccurate. Submitted by Acad D. S. Belyankin 12 Aug 50.

172T32

1. MAKARENKO, F. A.

2. USSR (600)

4. Pyatigorsk-Travertine

7. Hydrogeological analysis of the travertines of Pyatigorsk. Trudy Lab.gidrogeol.probl. 10, 1951.

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

1. MAKARENKO. F. A.

2. USSR (600)

4. Kazakhstan--Water, Undergroud

7. Ground waters of short valleys such a s those of central Kazakhstan and the northern Balkhas region. Trudy Lab. gidrogeol. probl./o'51.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

MAKARENKO, F.A., doktor geologo-mineralogicheskikh nauk; KHITAROV, N.I., kandidat geologo-mineralogicheskikh nauk

Geothermy of the Greater and Lesser Caucasus; conference in Tiflis. Vest. AN SSSR 25 no.9:102-103 S'55. (MLRA 8:12)
(Caucasus--Geology)

MAKARENKO, F.A.

Popov, I.V.

5(4,5) PHASE I BOOK EXPLOITATION SOV/1655

Akademiya nauk SSSR. Komitet po geodezii i geofizike.

Tezisy dokladov na XI General'noy assemblaye Mezhdunarodnogo geodezicheskogo i geofizicheskogo soyuza. Mezhdunarodnaya assotsiatsiya nauchnoy gidrologii (Abstracts of Reports Submitted to the 11th General Assembly of the International Union of Geodesy and Geophysics. The International Association of Scientific Hydrology) Moscow, 1957. 101 p. /Parallel texts in Russian and English or French/ 1,500 copies printed.

No additional contributors mentioned

PURPOSE: This booklet is intended for hydrologists and civil engineers.

COVERAGE: This collection of abstracts covers reports presented at the 11th General Assembly of the International Union of Geodesy and Geophysics on hydrological, erosional, and glaciological processes. Studies related to problems of underground waters, snow, and rivers are also discussed. The abstracts are in Russian, with English or French translations. Those appearing in English are designated by a single asterisk; those in French by two. There are no references given.

Card 1/4

Card 3/4

AUTHOR: Makarenko, F.A. 11-12-7/10

TITLE: Contemporary State and Fundamental Problems of Soviet Hydrogeology (Sovremennoye sostoyaniye i osnovnyye problemy sovetskoy gidrogeologii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1957, # 12, pp 97-108 (USSR)

ABSTRACT: A wide network of special scientific institutes which are engaged in various research in the field of hydrogeology and engineering geology spans the USSR. Increased emphasis is laid on specialized geologic research, such as geological geochemistry, ore mineralogy, geomorphology, soil geobotany, volcanology and finally hydrogeology, linked up anew with these sciences, the methods of which essentially aided the studies of water resources. The tremendous importance of subsurface waters was first stressed by V.I. Vernadskiy, A.F. Fersman, A.D. Arkhangel'skiy, B.B. Polynov, A.P. Vinogradov, N.M. Strakhov and others. The rules of formation of subsurface water resources, their economic importance and their conservation became one of the primary objectives of present hydrologic institutes. The academicians F.P. Savarenskiy, V.I. Vernadskiy, member-correspondent N.N. Slavyanova, G.N.

Card 1/5

Contemporary State and Fundamental Problems of Soviet Hydrogeology

Kamenskiy and others are prominent among numerous groups of Soviet geologists engaged in hydrogeologic research. Hydrogeology, being the only science dealing with subsurface water resources, and, in accordance with specialization taken place in geology and geography, is subdivided into several branches, such as mining and mineral hydrogeology, hydrogeology of waters associated with crude oil, radiohydrogeology, hydrogeothermics, hydrogeology of mineral waters and hydro-geochemistry. As a consequence, numerous scientific problems arise, which can be classified as follows: 1. Origin and formation of subsurface waters. 2. General theory and dynamics of subsurface waters. 3. Subsurface flow and connections of subsurface waters with surface waters. 4. Zones and geologic rules of the distribution of subsurface water resources. 5. Equilibrium, reserves and conservation of subsurface water resources. 6. Mineral waters, mineralized waters and brines. 7. Thermal waters, their role in the thermic equilibrium of the earth's crust and their utilization for thermification and power engineering. 8. Correlation of waters with mountain rocks. 9. Hydrodynamical and hydrochemical basis for the study of the system of subsurface waters. 10. General prob-

Contemporary State and Fundamental Problems of Soviet Hydrogeology

lems of hydrochemistry and geochemistry of subsurface waters. 11. Hydrogeochemical and hydrogeological criterions and methods of prospecting for minerals. 12. Problems of radio-hydrogeology. As to the genesis of subsurface waters, modern hydrogeology arived to the conclusion that underground water resources originate mainly from filtration, partly from processes of condensation, from ancient seas, lagoons and other deposits submerged together with rock formations of basins, and several other processes. Detailed studies are presently conducted in different regions of the USSR on geological, zonal, geochemical, biogeochemical, geothermal, and hydrodynamic conditions as well as the regularity of formation and distribution of water resources. The publication of V.I. Vernadskiy in 1936 laid the foundation for systematic studies of subsurface water resources of the USSR. At this time, extensive geologic-geochemical research was conducted by A.D. Arkhangel'skiy, E.S. Zalmanzon and other scientists. Deep drilling operations provided extensive data for the preparation of hydrogeological maps, which were issued at a scale of 1:500,000 by the Ministry of Geology and Conservation of

Contemporary State and Fundamental Problems of Soviet Hydrogeology

Natural Resources (Ministerstvo geologii i okhrany nedr,. Small scale maps on subsurface water and deep underground water resources were prepared by I.K. Zaytsev and V.I. Dukhanin. To study the interaction between water and mountain rocks, studies of reactions under field conditions and in laboratories were conducted. For several years G.N. Kamenskiy worked successfully on problems pertaining to the flow, storage, and supply of subsurface water resources. In the entire area of the Russian plateau, in some areas in Central Asia and in some regions of the European part of the USSR the flows of subsurface waters were investigated. Studies of the origin and location of mineral waters were taken up by N.N. Slavyanov, I.I. Volodkevich and other geologists. It was found that the methods used successfully by hydrogeologists and hydrochemists at the prospecting for oil, gas and metals could also be applied at hydrogeochemical and hydrogeological research.. Various hydrochemical methods perfected by A.A. Brodskiy, A.I. Germanov, A.V. Shcherbakov and others are now widely used for prospecting oil and ore deposits. Studies for the use of thermal waters for heating purposes were initiated by the Institute of Geochemistry and Analytical Chemistry of

Contemporary State and Fundamental Problems of Soviet Hydrogeology

the USSR Academy of Sciences (Institut geokhimii i analiticheskoy khimii AN SSSR), the Laboratory of Hydrogeological Problems and the Institute for Physics of the Earth of the USSR Academy of Sciences (Laboratoriya gidrogeologicheskikh problem i institut fiziki zemli AN SSSR). Thermal, high-thermal and superheated waters located in deep Mesozoic strata occur within the area of the large west Siberian artesian basin over an expanse of more than 2 million sq km. The use of these waters for thermification has started. Based on present data, it has been estimated that more than 60 cities of the USSR, including rural districts, can be centrally heated by thermal waters.

AVAILABLE: Library of Congress

Card 5/5

AUTHOR: Makarenko, F.A.

TITLE: Hot Subsurface Waters, Their Occurrence and Prospects for Practical Utilization (Goryachiye podzemnyye vody, ikh rasprostraneniye i perspektivy prakticheskogo ispol'zovaniya

PERIODICAL: Byulleten' Moskovskogo obshchestva ispytateley prirody - Otdel geologicheskiy, 1956, Nr 2, pp 157-158 (USSR)

ABSTRACT: In this article, the author gives general data on thermal waters in the USSR, occurring in the Caucasus, the Trans-Caucasus, Central Asia, Siberia, Kamchatka and the European part of the USSR.

1. Hydrology--USSR 2. Water---Temperature factors

Card 1/1

SOV-132-58-8-9/16

AUTHORS: Fomin, N., Beler, B.I., Kobozev, I.I., Makarenko, F.A. and Rule, N.A.

TITLE: Development of Exploratory Work on Mineral and Thermal Waters of the USSR (O razvitii issledovatel'skikh rabot na mineral'nyye i termal'nyye vody v SSSR)

PERIODICAL: Razvedka i okhrana nedr, 1958, Nr 8, pp 38-42 (USSR)

ABSTRACT: The importance of mineral and thermal waters for all branches of the national economy is stressed by the authors. Their utilization in the USSR is almost insignificant in comparison with the reserves it possesses. Hydrothermal reserves of the USSR as a source of the thermal energy are practically inexhaustible, as reported during the first All-Union conference on geothermic researches, which took place in Moscow in 1956. At present, research is being conducted by many ministries and organizations, and the authors propose that they be concentrated in the Ministry of Geology and of Conservation of Mineral Resources.

ASSOCIATION: Ministerstvo geologii i okhrany nedr SSSR (The Ministry of Geology and Conservation of Mineral Resources of the USSR)

1. Water--USSR 2. Water--Economic aspects

Card 1/1

SOV-26-58-9-15/42

AUTHOR: Makarenko, F.A., Doctor of Geologo-Mineralogical Sciences

TITLE: Underground Waters as a Source of Thermal Energy (Podzemnyye vody - istochnik teplovoy energii)

PERIODICAL: Priroda, 1958, Nr 9, pp 89-91 (USSR)

ABSTRACT: A vast portion of deep subsoil water is warm or hot; only the overlaying waters are cold. Where the hot water penetrates to the earth surface it is utilized by man in many countries for heating and medicinal purposes. In the USSR it is used for heating of settlements and plant facilities in the vicinity. Soviet geologists, hydro-geologists and geophysicists have discovered lately a gigantic reservoir of horizontal and vertical hot underground waters in the Caucasus, Transcaucasia, Central Asia, the European part of the USSR and several districts of Siberia and Kamchatka. There are indications that hot waters also exist beneath the north and northeast territories of the USSR. Hot springs penetrate the frozen layers of the Chukotskiy kray, the Okhotsk coast region, several districts of the North Urals and other parts and reach the surface with a temperature of up to 90 to 100°. Hot artesian wells in West Siberia indicate hot-water-bearing

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strata of huge size. These riches were pointed out by the First All-Union Geothermal Congress in 1956. The hot waters of the Caucasian region at present are best known to researchers. There are successive layers of 100 to 150 and up to 270°C. The largest basins with temperatures up to 150°C and more are in the Stavropol' region, the Terskaya and Kuban-skaya tectonic depressions, Dagestan, the Kurinskaya and Rionskaya lowlands, the Ararat valley and the Black Sea coast of the Caucasus. Drilling holes yielded 50 and often up to 100 liters a second. Salts and rare elements (iodine, bromium, boron sulphide, etc.) are available for industrial utilization. In the European part of the USSR there are hot water layers of 70 to 80°C and diverse mineral compounds at depths of 1,500 m and more under the districts of the Second Baku, the Dnepr-Donets syncline, North-Caspian area, Moscow syneclise, etc. Under the Omsk area in West Siberia, at a depth of up to 2,800 m, large reserves are also available. In the Ufa region, hot subsoil waters reach a temperature of 360°C at a depth of 90 m. There are exceedingly large artesian basins in the Turkmenistan, Uzbekistan, Tadzhikistan under the foot hills of Tyan'-Shan where they border the Kirghiz and Kazakh SSRs. Similar conditions prevail in Central and East Siberia, the Chukotskiy kray, the districts of the Pacific Ocean of the USSR, and the Zabaykal'ye, Kamchatka and the

Underground Waters as a Source of Thermal Energy SOV-26-58-9-15/42

Kuriles. The Laboratoriya gidrogeologicheskikh problem AN SSSR (Laboratory of Hydrogeological Problems AS USSR) has worked out projects for the utilization of hot water and steam sources for the suburban and regional heating. The Dagestanskiy filial AN SSSR (Dagestan Branch AS USSR) has calculated that 2 to 3 hot water springs will suffice to serve a population of up to 100,000. This will yield an annual economy of 10 million rubles. An intelligent exploitation of such natural resources will save millions of tons of wood, coal and oil fuel and will drastically reduce the load on transportation facilities. There are 2 photos and 2 Soviet references.

ASSOCIATION: Laboratoriya gidrogeologicheskikh problem im. F. P. Savarenskogo AN SSSR/Moskva (The Laboratory of Hydrogeological Problems imeni F. P. Savarenskiy AS USSR/Moscow).

1. Hydrology 2. Thermal radiation 3. Water--Applications

Card 3/3

MAKARENKO, F.A.

Some general problems in studying the zonality of underground waters. Trudy Lab.gidrogeol.probl. 16:211-227 '58. (MIRA 12:2)

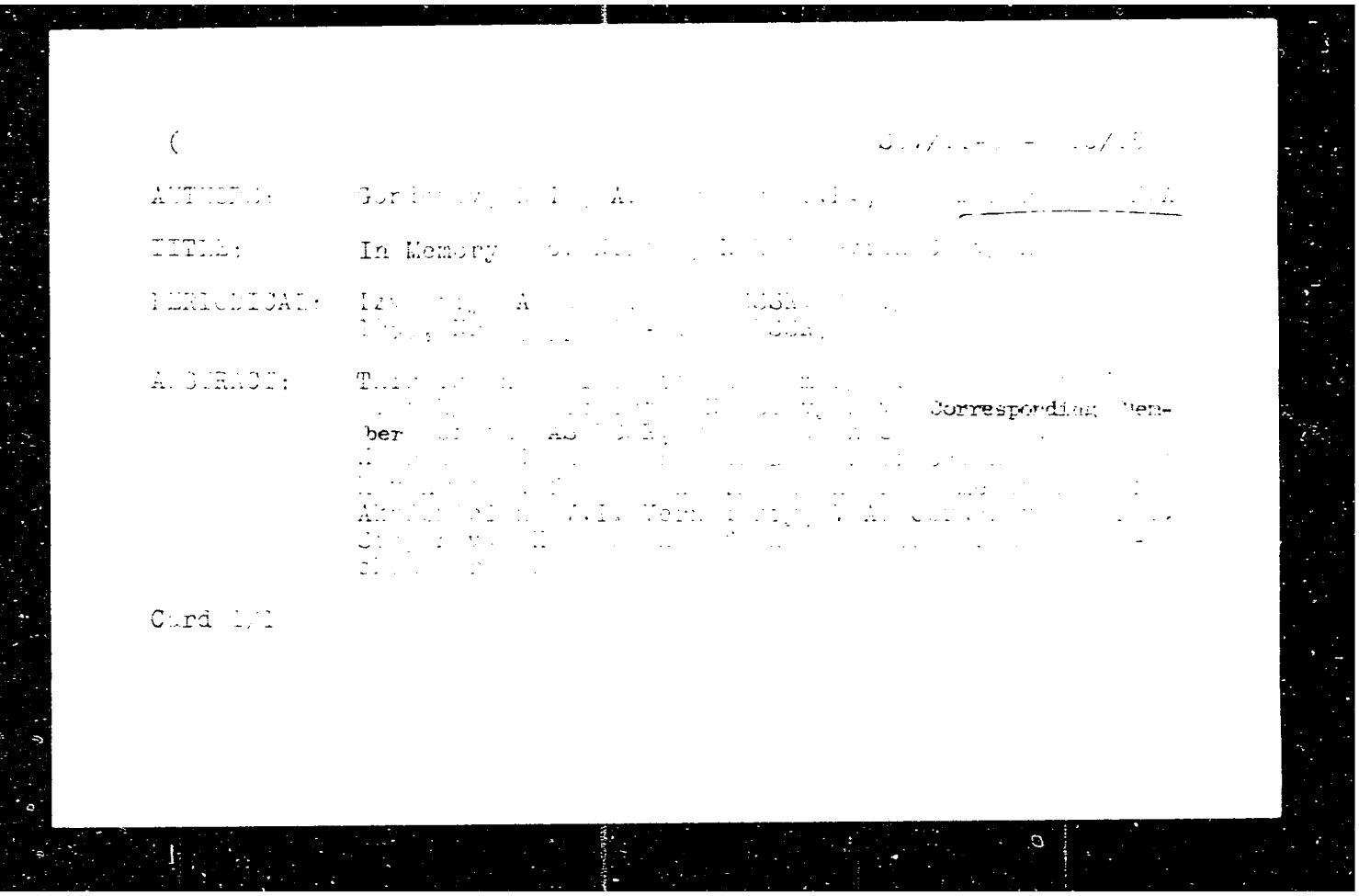
1. Laboratoriya gidrogeologicheskikh problem imeni F.P. Savarenskogo AN SSSR.

(Water, Underground)

MAKARENKO, F.A., doktor geologo-mineral.nauk, red.

[Estimation of resources and outlook for the utilization of thermal waters of the U.S.S.R. as a source of heat; with regard to the plan for the development of the national economy of the U.S.S.R.] Otsenka resursov i perspektivy ispol'zovaniia termal'nykh vod SSSR kak istochnika tepla; k perspektivnomu planu razvitiia narodnogo khoziaistva SSSR. Izd.2., dop. s vvedeniem i pod red. F.A.Makarenko. Moskva, 1959. 76 p. (MIRA 13:2)

1. Akademiya nauk SSSR. Laboratoriya gidrogeologicheskikh problem.
(Water, Underground) (Hot-water supply)



(

AUTHOR: Gor[illegible] I. A[illegible]

TITLE: In Memory [illegible]

PUBLICATION: [illegible] A [illegible] USSR

ABSTRACT: [illegible] Corresponding Member [illegible] AS [illegible]

Card 1/1

GARMONOV, I.V.; MAKARENKO, F.A.; OVCHINNIKOV, A.M.

Grigorii Nikolaevich Kamenskii; obituary. Izv.AN SSSR.Ser. geol. 24 no.12:97-98 D '59. (MIRA 13:8)
(Kamenskii, Grigorii Nikolaevich, 1892-1959)

MAKARENKO, F.A.; AFANAS'YEV, T.P., doktor geol.-min.nauk, otv.red.; TUGARINOV, D.N., red.izd-va; KOVAL'SKAYA, I.F., tekhn.red.

[Characteristics of subsurface flow in the basin of the Don River; regime, balance, hydrochemistry, and geological activity] Kharakteristika gruntovogo stoka basseina Dona; rezhim, balans, gidrokhimiia i geologicheskaia deiatel'nost'. Moskva, Izd-vo Akad.nauk SSSR, 1961 73 p. (Akademiia nauk SSSR. Laboratoriia gidrogeologicheskikh problem. Trudy, vol.34). (MIRA 14:6)
(Don Valley--Water, Underground)

MAKARENKO, F.A.; CHEPIZHNAYA, E.A.

Study of ore karst. Trudy Lab.gidrogeol.probl. 42:3-9 '62.
(MIRA 15:8)

(Karst) (Ore deposits)

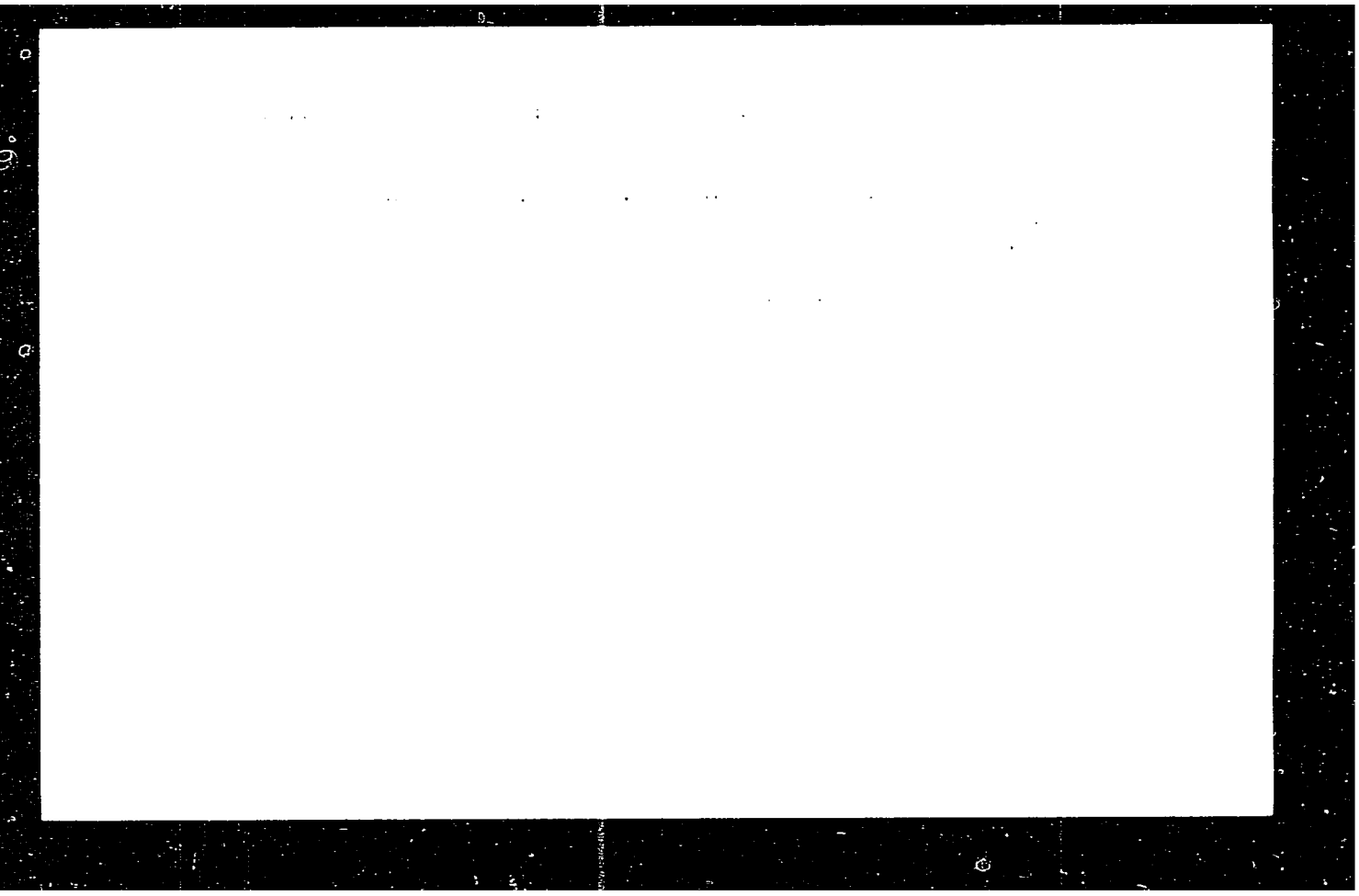
BOGOMOLOV, G.V.; VALEDINSKIY, V.I.; KOCHNEV, S.S.; MANIS, M.N.; PANTELEYEVA, Ye.N.; POPOV, I.V.; SYROVATKIN, V.G.; FOMICHEV, M.M.; BOGORODITSKIY, K.F.; DUKHANINA, V.I.; KRASINTSEVA, V.V.; MAKARENKO, F.A.; POKROVSKIY, V.A.; SILIN-BEKCHURIN, A.I.; FOMIN, V.M.; SHAGOYANTS, S.A.

Il'ia Il'ich Kobozev; obituary. Trudy Lab.gidrogeol.probl. 42:101-102 '62. (MIRA 15:8)
(Kobozev, Il'ia Il'ich, 1908-1961)

MAKARENKO, F.A.; MAVRITSKIY, B.F.

Thermal and overheated waters in the U.S.S.R. Sov.geol. 6 no.8:78-94 Ag '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii i Geologicheskiy institut AN SSSR.
(Thermal waters)

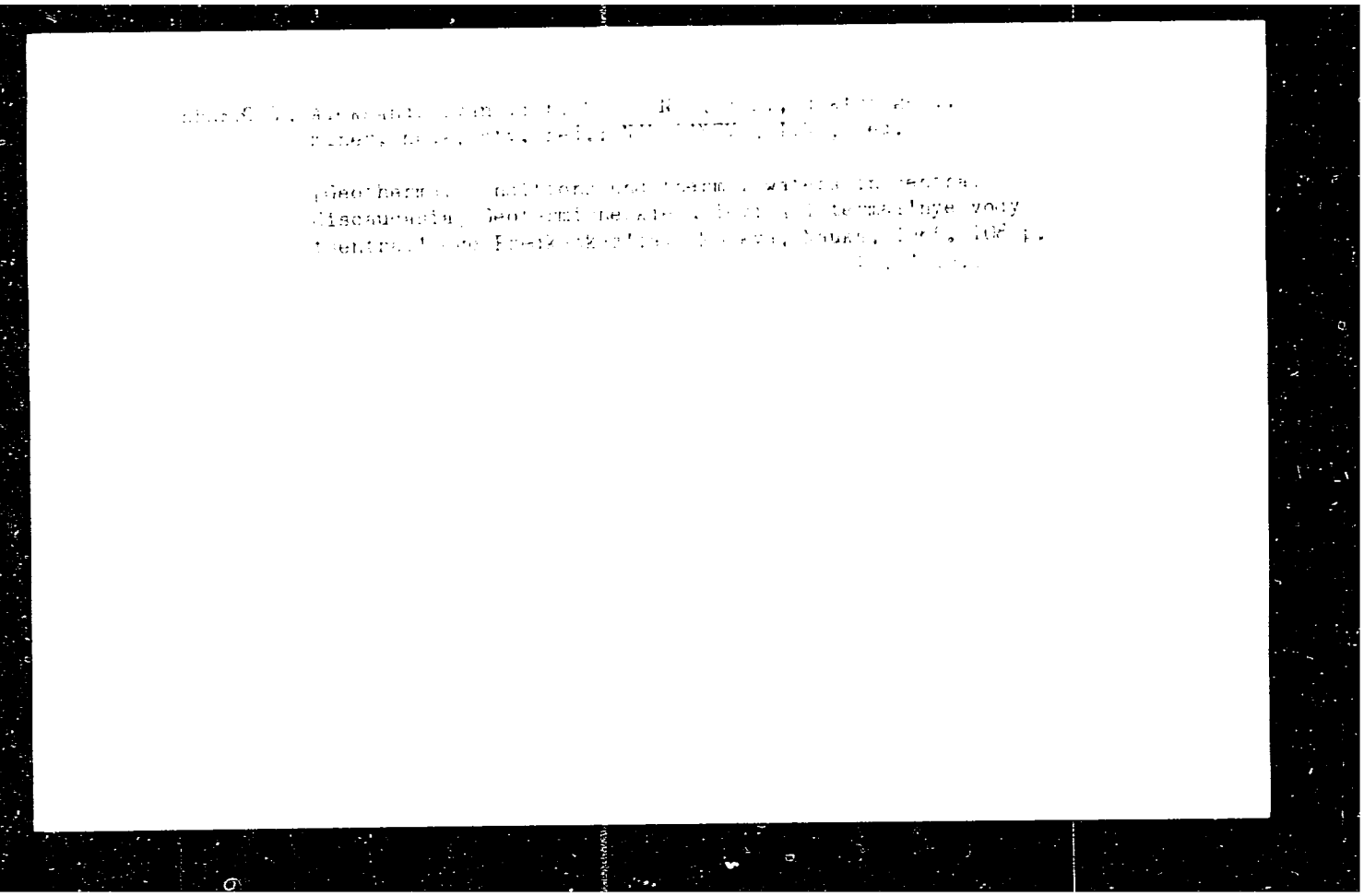


APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001031420011-8"

LAKA.ENKO, F.A., doktor geol.-min. nauk, otv. red.; MIKHEYEV, S.F., kand. geol.-miner. nauk, otv. red.

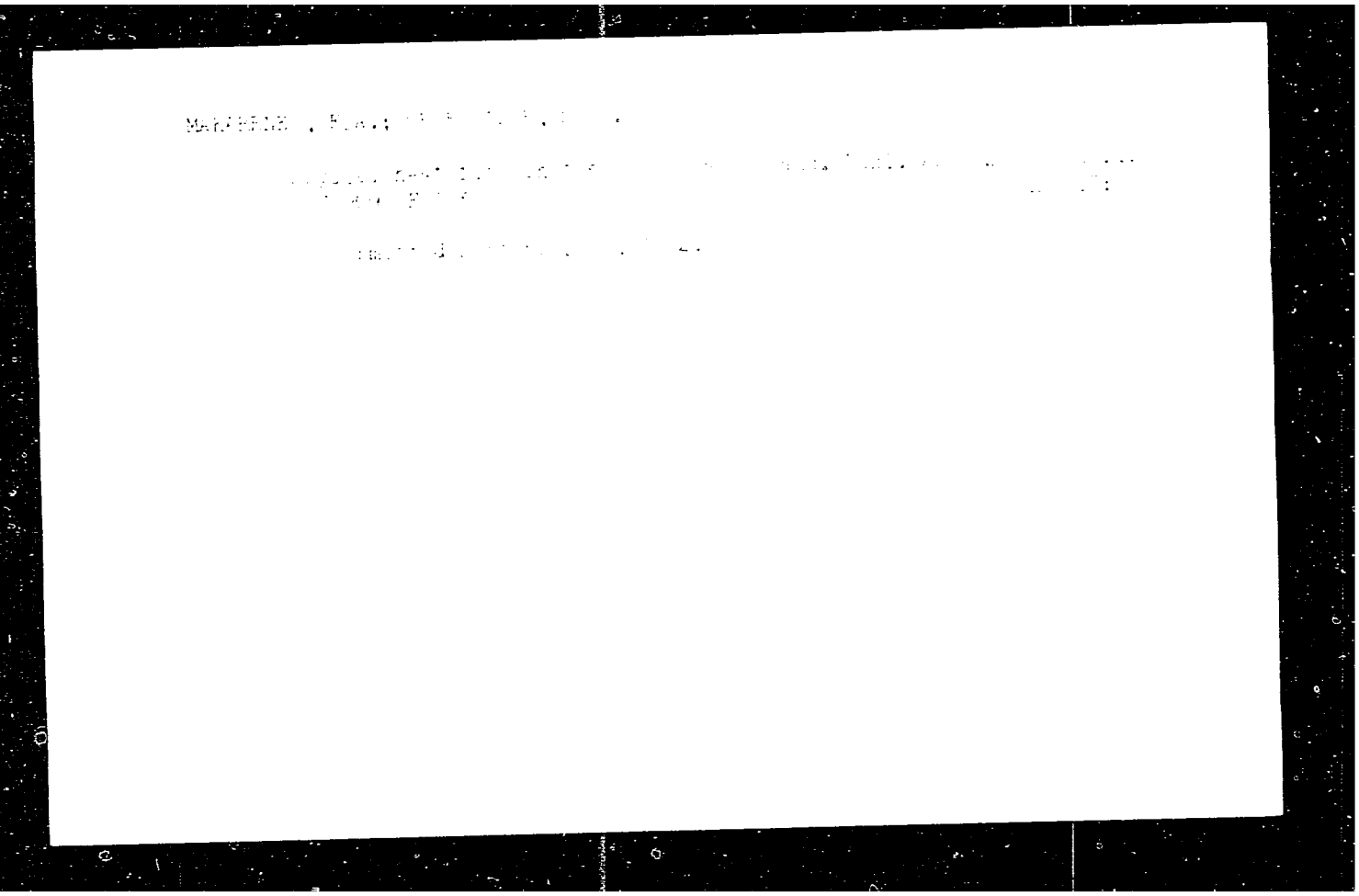
[Hydrogeothermal conditions in the upper part of the earth crust] Gidrogeotermicheskie usloviia verkhnikh chastei zemnoi kory. [redacted], izd-vo "Nauka," [redacted]. (MIRA [redacted])

1. Akademiya nauk [redacted] Geokhimicheskiy institut.



KONONOV, V.I.; MAKARENKO, F.A., doktor geol.-miner. nauk, otv. red.

[Effect of natural and artificial heat focuses on the formation of the chemical composition of underground water] Vliianie estestvennykh i iskusstvennykh ochagov tepla na formirovanie khimicheskogo sostava podzemnykh vod. Moskva, Nauka, 1965. 146 p. (MIRA 19:1)



ACC NR: AP7001[illegible] (N) SOURCE CODE: UR/0020/66/171/004/0944/0947

AUTHOR: Sobolevskaya, V. N.; Makarenko, F. A.; Bogomolov, Yu. G.

ORG: Geology Institute, Academy of Sciences, SSSR (Geologicheskiy institut Akademii nauk SSSR)

TITLE: Use of heat parameters as one of the methods for determining the boundaries in tectonic districting

SOURCE: AN SSSR Doklady, v. 171, no. 4, 1966, 944-947

TOPIC TAGS: ~~geology~~, physical geology, geologic survey, heat flux pickup, tectonics

ABSTRACT: A large amount of existing data on temperature measurements of the Earth's mantle and base on the territory of the Soviet Union has been, within the last few years, organized and generalized by the Geothermy and Geochemistry Laboratory for Deep Zones, Geology Institute, Academy of Sciences SSSR (Laboratoriya geotermii i gidrodinamiki glubokikh zon Geologicheskogo instituta Akademii nauk SSSR). A laboratory map was drawn which shows the distribution of geothermal fields in the Soviet Union; from the map, some generalizations can be made regarding changes of temperature fields and their relationship to different structures of the Earth's crust. The obtained results showed that changes of the temperature field in the Paleozoic and Bay'kal bases of the Western Siberian plateau and in the Dorfic layer of the Siberian plateau clearly show, in a narrow region, where these different

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ACC NR: AP7001900

layers of the Earth's crust are connected. It can be seen that isotherms 25 and 50°, at the boundary of the Siberian plateau lie significantly lower than at the boundaries of the Bay'kal and the Paleozoic base of Western Siberia. Paper presented by Academician A. L. Yanshin 26 July 1966. Orig. art. has: 1 table and 2 figures.

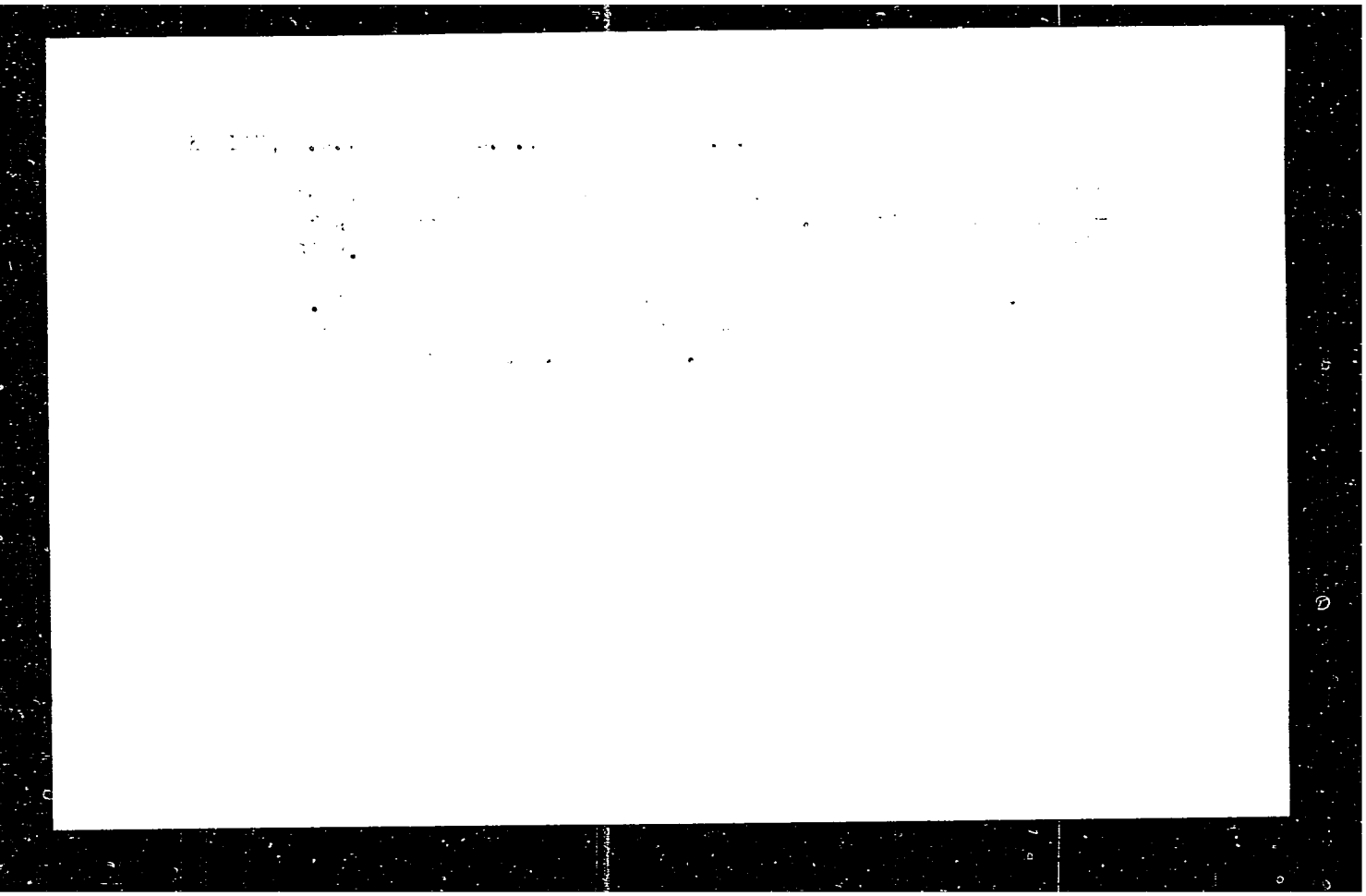
SUB CODE: 08/ SUBM DATE: 13Jul66/ ORIG REF: 009/ OTH REF: 002

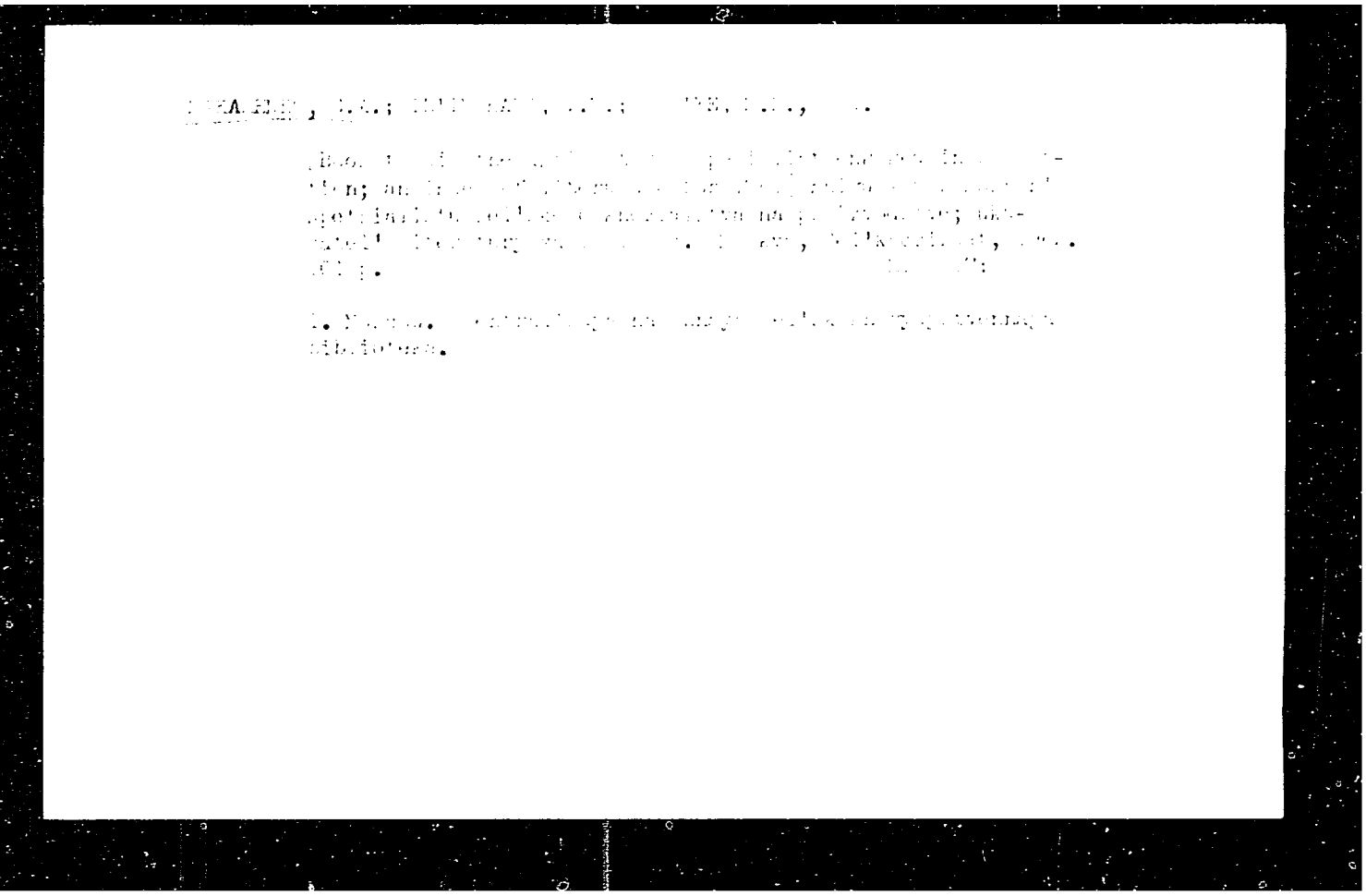
2/2

MAKARENKO, G.

Damage caused by larks. Zashch. rast. ot vred. i bol. 10 no.2: 49 '65. (MIRA 18:4)

1. Zaveduyushchiy Yeyskim gosudarstvennym sortouchastkom, Krasnodarskiy kray.





MAKARENKO, G.A.; IL'INSKAYA, V.N.; SHAPIRO, T.I., red.; PECHENKIN, I.V., tekhn. red.

[Recent developments in agricultural research and practice; an annotated bibliography] Novoe v sel'skokhoziaistvennoi nauke i praktike; annotirovannyi ukazatel' literatury. Moskva, Sel'khozizdat, 1962. 103 p. (MIRA 16:7)

1. Moscow. TSentral'naya nauchnaya sel'skokhozyaystvennaya biblioteka.
(Bibliography--Agriculture)

MAKARENKO, G.A.; GRIGOR'YEVA, V.G.; SHEYNINA, T.I., red.; [illegible] B.D., red.

[Book to aid the agricultural specialist engaged in production; index of literature for 1963] Knigu - v pomoshch' spetsialistu sel'skogo khoziaistva na proizvodstve; ukazatel' literatury za 1963 god. Moskva, Kolos, 1964. 111 p. (MIRA 18:3)

1. Moscow. TSentral'naya nauchnaya sel'skokhozyaystvennaya biblioteka.

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[redacted], G.G., [redacted]; [redacted], G.A., Inzh.; [redacted], D.I., kand. tekhn. nauk

[redacted] "paronit" (sealing material). Otkr. izobr. [redacted]

KHZMALYAN, D.M., kand. tekhn. nauk; VILENSKIY, T.V., inzh.; KRASNOV, M.L., kand. fiziko-matem. nauk; MAKARENKO, G.I., kand. fiziko-matem. nauk

Combustion process of pulverized coal in a single-dimensional coal dust and air stream. Teploenergetika 11 no.6:85-87 Je '64. (MIRA 18:7)

1. Moskovskiy energeticheskiy institut.

KHZMALYAN, D.M., kand. tekhn. nauk; VILENSKIY, T.V., inzh.; KRASNOV, L.M., kand. fiziko-matem. nauk; MAKARENKO, G.I., kand. fiziko-matem. nauk

Study of the ignition of a single-dimensional coal and dust flow with heat transfer. Teploenergetika 11 no.8:67-70 Ag '64. (MIRA 18:7)

1. Moskovskiy energeticheskiy institut.

MAKARENKO, G.I.

Boundary problems for degenerating parabolic equations. Trudy MEI no.28: 5-24 '56. (MLRA 10:6)

(Differential equations)

MAKARENKO, G.I. Cand Phys-Math Sci -- (diss) "Marginal problems for degenerate parabolic equations". Mos, 1957. 10 pp 20 cm. (Min of Higher Education USSR. Mos Order of Lenin Power Engineering Inst im V. M. Molotov). 100 copies. Bibliography: pp 9-10 (17 names) (KL, 23-57, 108).

KISELEV, A.I.; KRASNOV, M.L.; MAKARENKO, G.I.; [illegible], I.G., red.

[Problems in ordinary differential equations] Sbornik zadach po obyknovennym differentsial'nym uravneniiam. Moskva, Vysshaia shkola, 19[illegible]. [illegible] p. (MIRA 18:1)

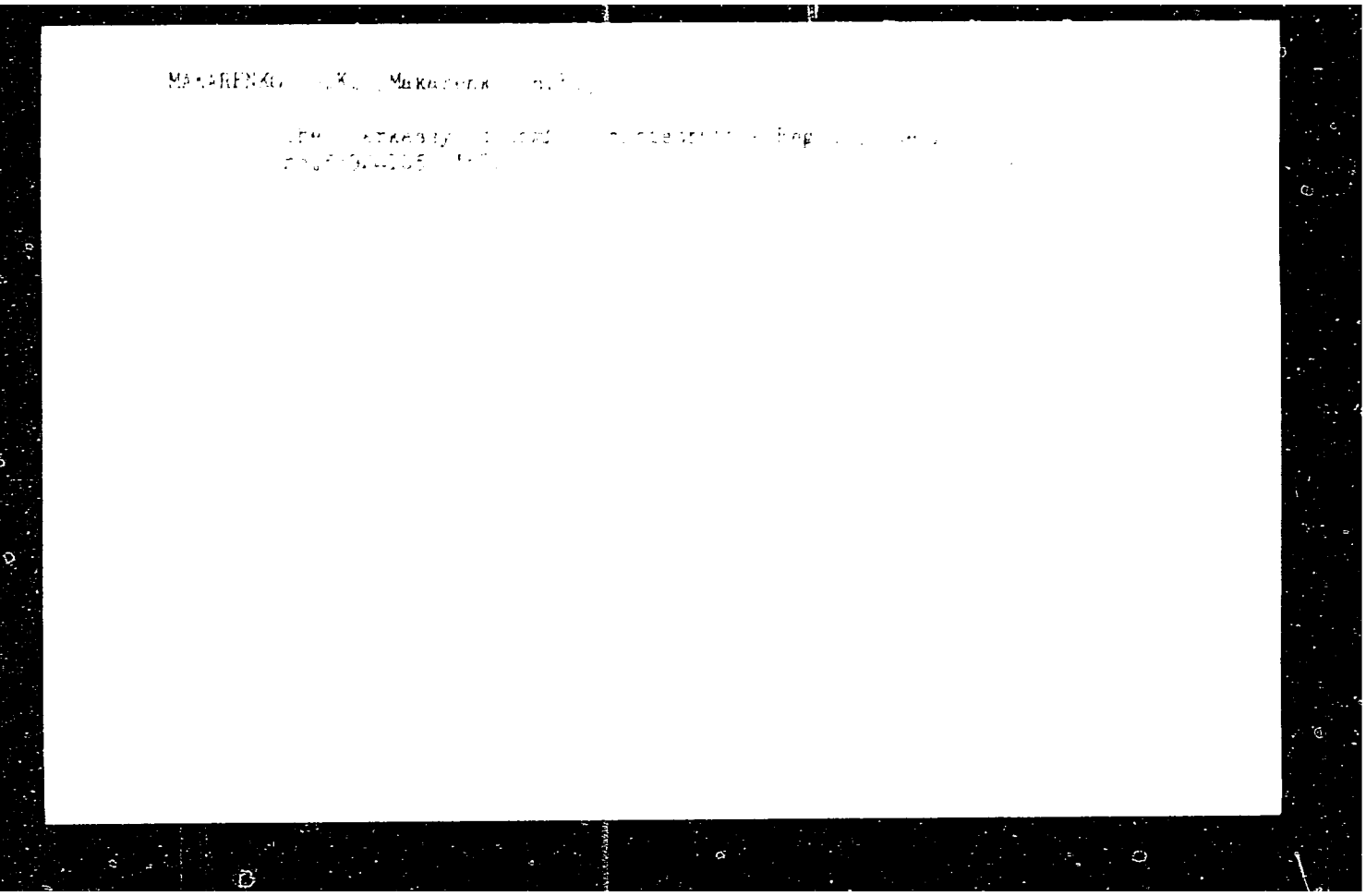
KRASNOV, Mikhail Leont'yevich; MAKARENKO, Grigoriy Ivanovich; MAYEV, A.P., red.

[Operational calculus. Stability of motion] Operatsionnoe ischislenie. Ustoichivost' dvizheniia. Moskva, Nauka, 1964. 104 p. (MIRA 17:12)

MAKHRACHEV, Aleksandr Yakovlevich[Makhrachev, O.], nauchnyy sotr.; MAKARENKO, Gurly Karpovich[Makarenko, H.], nauchnyy sotr.; KHORUZHEVSKIY, Nikolay Demyanovich[Khoruzhevs'kyi, M.]; SOLODKIY, D.I.[Solodkyi, D.I.]; MOROZKO, L.G. [Morozko, L.H.], tekhn. red.

[Cities of Kiev Province and their future]Mista Kyivshchyny, ikh maibutnie. Kyiv, Kyivs'ke oblasne knyzhkovo-gazetne vydvo, 1962. 121 p. (MIRA 16:4)

1. Institut ekonomiki Akademii nauk Ukr.SSR (for Makharchev, Makarenko). 2. Korespondent "Kiyevskoy pravdy" (for Khoruzhevskiy).
(Kiev Province--Cities and towns)



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E021/E406

AUTHORS: Zhuravlev, N.N., Makarenko, G.N., Samsonov, G.V., Sinel'nikova, V.S. and Tsebulya, G.G. (Kiyev)

TITLE: The Question of the Properties and Phase Composition of Alloys of Boron and Carbon

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1961, No.1, pp.133-141

TEXT: The aim of the work was to find a method of preparing relatively pure alloys of boron with carbon and to investigate their physical properties and phase composition. The initial materials were powders of amorphous boron (98.5 to 99.5%) and lamp black (99.8% C). The powders were mixed in alcohol, dried and sieved through 150 mesh. Several methods of preparation were tried, the most acceptable being to hot-press a mixture of the powders in an argon atmosphere in graphite press-formers. Some carburization took place (chemical analyses were made by T.N.Nazarchuk). This could be overcome by using a molybdenum lining but it resulted in contamination with 1.3 to 1.9% molybdenum. Boron nitride linings avoided this contamination. The alloys prepared were examined metallographically, etching by anodic treatment in a

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The Question of the Properties ...

40% KOH solution at 0.9 to 1.2 A/cm^2 and 10 to 20 V. The structures obtained are shown in Fig.1. The alloy with 6.4% carbon had a eutectic structure. At about 8% carbon, the structure was practically single-phased and at 10.2% carbon the whole field appeared as a eutectic. It is proposed that a compound forms at about 8% carbon with the formula $B_{12}C$. A second compound begins to appear at about 10% carbon and is either $B_{13}C_2$ or $B_{12}C_3$. X-ray analysis of the alloys was also carried out and confirmed the metallographic observations. Fig.2 shows the photograph of the phases $B_{12}C$ and B_4C. The B_4C phase had a rhombohedral structure. Between 20.9 and 80% C, the alloy consisted of two phases: the rhombohedral phase, with maximum carbon content in the cell, and graphite. At 61% carbon, an X-ray photograph with a large number of lines, the intensity and position of which did not correspond to B_4C, was obtained. It is proposed that a compound richer in carbon than B_4C exists at high temperatures, which decomposes to B_4C and graphite at low temperatures. Micro-hardness measurements showed that in the unannealed state there is a maximum corresponding to the proposed phase $B_{12}C$ (about 6000 kg/mm^2). After annealing, the hardness curve is smoothed out and the hardness

of $B_{12}C$ was 4000 kg/mm^2 whilst that of B_4C was about 5000 kg/mm^2. Electrical resistance measurements showed that there were sharp maxima at 8 and 21.7% carbon. After annealing, the first maximum was retained although the absolute value decreased; a high maximum was observed at about 15% carbon ($B_{13}C_2$). The resistance of alloys containing more than 30% carbon was low and practically independent of composition. Studies of temperature dependence of resistance of B_4C confirmed the semiconducting character of this carbide (see Fig.5). Thermal e.m.f. measurements showed that the highest values corresponded to defect structures of the compounds $B_{12}C$ and $B_{12}C_3$ deficient in carbon. Two possible variations of the phase diagram of the boron-carbon system at the boron-rich end are given in Fig.4. There are 5 figures, 3 tables and 19 references: 14 Soviet and 5 non-Soviet.

SUBMITTED: August 24, 1960

Card 3/9

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15 2240

AUTHORS: Samsonov, G.V., Makarenko, G.N., and Kobelabova, T.Ya.

TITLE: Preparation and properties of yttrium monocarbide

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 7, 1961, 1444 - 1448

TEXT: Of all yttrium carbides the highest practical interest is in yttrium monocarbide YC, whose properties in contrast to YC_2 should be closer to the chemically stable carbides of transition metals of the V period (zirconium, niobium, molybdenum). Literature does not give any data on existence of this carbide, hence the present work deals with the investigation into the possibility and conditions of its preparation and study of some properties. To prepare YC use is made of the known reduction of yttrium oxide with carbon, by the following reaction:

$$Y_2O_3 + 5C = 2YC + 3CO$$

Card 1/6

Preparation and properties ..

After explaining the preparation methodology the products of reduction-carbonization were analyzed for yttrium content, total and free carbon. The analysis was difficult since the products of reduction decomposed in air. The results of analysis are given in Table 1 and Fig. 1.

Table 1. Results of experiments to prepare YC (range of stoichiometric composition).

Legend: 1 - temperature, °C, 2 - wt. of briquettes, 3 - initial, 4 - final, A, 5 - decrease in wt. %, 6 - calculated wt. of briquettes after heating, B (gr.), 7 - ratio A/B, %, 8 - heating time, hours, 9 - composition, %; 10 - total C, 11 - free C, 12 - C combined; 13 - C total; 14 - N.D., 15 - N.D.; 16 - samples melted;
* C combined calculated on carbide phase YC : $C_{comb} = \frac{C_{total} - C_{free}}{100 - C_{free}} \times 100\ \%$

Card 2/6

Preparation and properties ...

Table 1. (Cont'd).

ТАБЛИЦА 1

Результаты опытов по приготовлению монокарбида иттрия (шихта стехиометрического состава)

Температура (°С)	Вес брикета (г) начальный	Вес брикета (г) конечный	Убыль веса (%)	Расчетный вес брикета после нагрева — Б (г)	Отношение А/Б (%)	Время нагрева (час)	Содержание (%) Y	$C_{общ}$	$C_{своб}$	$C_{связ}$	$C_{общ}$ Σ
1000	10.20	9.90	3.0	7.20	137	2.16	82.0	24.8	24.8	не обн.	86.85
1100	10.45	10.15	2.8	8.22	124	2.00	64.1	21.3	21.2	не обн.	85.4
1200	9.90	9.82	0.8	6.99	140	2.16	63.0	20.1	20.2	не обн.	83.1
1300	10.99	10.70	2.6	7.76	138	2.16	63.0	20.4	20.4	не обн.	83.4
1400	7.99	7.65	4.2	5.64	135	2.33	62.9	20.4	20.6	не обн.	83.3
1500	9.78	9.30	4.9	6.90	135	2.00	63.2	20.4	20.1	не обн.	83.6
1550	3.12	2.85	8.6	2.46	116	2.50	64.6	18.2	10.6	8.4	82.8
1600	7.55	6.04	20.0	5.33	113	3.16	74.8	15.6	4.7	11.4	90.4
1700	9.94	7.74	22.1	7.02	110	3.16	77.4	14.1	не обн.	14.1	91.5
1800	10.22	7.65	25.1	7.21	106	3.00	81.0	14.0	не обн.	14.0	95.0
1850	11.10	8.50	23.4	8.73	97.6	2.00	83.2	14.4	не обн.	14.4	97.6
1900	8.85	5.95	32.7	6.25	95.1	3.16	85.3	12.0	не обн.	12.0	97.3
2000	6.95	Образец расплавился				3.16	78.0	15.5	0.31	15.3	93.3

Card 3/6

Preparation and properties ...

Fig. 1. Composition of reduction products against temperature.

Legend: V - concentration (%); G - ratio A/B (see Table 1); D - temperature °C; 1 - coefficient A/B; 2 - yttrium concentration; 3 - combined C; 4 - free carbon; 5 - total C + Y; 6 - calculated concentration of Y; 7 - calculated concentration of carbon.

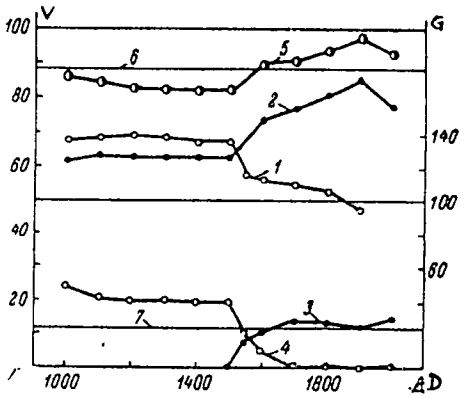

Рис. 1. Зависимость состава продуктов реакции от температуры.

В — содержание (%), *Г* — отношение А/В (табл.), *Д* — температура (°С). *1* — коэффициент А/В; *2* — содержание иттрия, *3* — то же связанного углерода, *4* — то же свободного углерода; *5* — сумма содержаний $C_{общ}$ + Y; *6* — расчетное содержание Y, *7* — то же углерода.

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It follows from the above data that combined carbon agrees with the calculated value for the formation of the YC phase and free carbon practically disappears at 1700°C, similarly the yttrium concentration approaches that of YC at 1900°C; at this temperature the sum (yttrium content + total carbon) is more stable and approaches an accuracy of analysis of 97-98 %. Above 1900°C the yttrium carbide melts with a loss of yttrium by evaporation leaving a liquid phase rich in carbon. At temperatures of 1900°C and time of 2 - 3 hours a uniform product is formed, golden colored, having a mean combined C content of 12 %, free C, equal practically to - which agrees with carbide YC (theoretical combined C = 11.89%). The thermal analysis of yttrium carbide distribution for the range from 20 to 1100° by the method of T.S. Verkhoglyadova and L.L. Vereykina (Ref. 7: TsITEIN, M., vyp. 2, 14. 1960) using a protecting atmosphere showed the absence of any transformations; the coefficient of thermal expansion is small and equal to $1.76 \cdot 10^{-1}$ degree^{-1}. The specific resistance, determined by a probe method was equal to $4 \cdot 10^{1}$ $\mu\Omega$ cm. Thermoelectric power determined for the

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couple with electrolytic copper and calculated with respect to lead was found to be 34.8 μV/degree. On the basis of this data it follows that YC possesses semiconducting properties. The melting point was equal to 1950 ± 20°C. Yttrium monocarbide rapidly oxidizes in air (in a powdered state), decomposes with water and weak acid and alkali solution, concentrated acids decomposed it slightly. Also it decomposes in air at room temperature at different rates, first rapidly (formation of oxycarbides) reaching a maximum and then gradually decreasing (decomposition of oxycarbides into Y_2O_3). After 50 hours of air oxidation, the carbon content falls to 5.1 % and after 75 hours to 2.5 %. There are 5 figures, 3 tables and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The reference to the English-language publication reads as follows: F. Spedding, K. Schmidder, A. Daane, J. Am. Chem. Soc., 80, 4499, 1958.

ASSOCIATION: Otdel tugoplavkikh materialov instituta metallokeramiki i spetsplavov AN USSR (Department of High Melting Materials, Institute of Metal Ceramics, AS USSR)

SUBMITTED: November 5, 1960

Card 6/6

37167

S/078/62/007/005/005/014
B101/B110

15.2240
21250

AUTHORS: Samsonov, G. V., Kosolapova, T. Ya., Makarenko, G. N.

TITLE: Synthesis and physicochemical properties of yttrium carbides

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 5, 1962, 975 - 979

TEXT: The yttrium carbides YC, Y_2C_3 and YC_2 were synthesized by heating Y_2O_3 with the corresponding stoichiometric amounts of carbon black in vacuo. YC is formed at 1800-1900°C; above 1700°C, the oxycarbide Y_2C_2O is first formed, which is converted into YC by liberation of CO on a further temperature increase (1900°C). YC melts above 1900°C under decomposition. Oxycarbides are also formed in the preparation of Y_2C_3 (1700-1800°C), but not in that of YC_2 (1900°C). Owing to the high volatility of YC and Y_2C_3, the pressure after the reaction remains higher than the initial pressure. YC_2, however, has low volatility. Samples were pressed from the carbides to test their physicochemical properties (YC at 1800°C, 80 kg/cm^2; Y_2C_3 at

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1650°C, 100 kg/cm^2; YC_2 at 2000°C, 100 kg/cm^2). The authors determined: (1) Microhardness (kg/mm^2); (2) melting point, °C; (3) thermal expansion coefficient, deg^{-1}; (4) resistivity, μohm·cm; (5) thermo-emf, paired with electrolytic copper, μv/deg; (6) radiation coefficient (λ = 0.655 mμ) at 1100°C; (7) ditto at 1800°C. The values in the given order are for YC: 120 ± 35; 1950 ± 20; $1.56 \cdot 10^{-6}$; $4.54 \cdot 10^4$; -34.6; 0.81; 0.81; for Y_2C_3: 900 ± 160; 1800 ± 50; -; $5.30 \cdot 10^2$; -6.4; 0.79; 0.91; for YC_2: 700 ± 106; 2300 ± 50; -; 88.7; -0.8; 0.87; 0.73. The radiation coefficient changes linearly in the given temperature range. The carbides are not stable at room temperature. Oxidation occurs, with YC and Y_2C_3 by formation of oxycarbides (increase in weight). YC_2 oxidizes more slowly and with decrease in weight. Yttrium carbides decompose easily in water and dilute alkalis or acids. YC_2 is the most stable. There are 5 figures and 3 tables. The most important English-language references are: F. Spedding, A. Schneider, A. Daane, J. Amer. Chem. Soc., 80, 4499 (1958); R. Vickery,

S/078/62/007/005/005/014
Synthesis and physicochemical ... B101/B110

R. Didiacek, A. Ruben, J. Chem. Soc., 159, 49d (1959).

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences UkrSSR)

SUBMITTED: June 12, 1961

Card 3/3

S/020/62/144/005/009/017
B166/B138

21.2500
15.2240

AUTHORS: Samsonov, G. V., Makarenko, G. N., and Kosolapova, T. Ya.

TITLE: Scandium carbide and composite carbides of scandium and titanium

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 5, 1962, 1062-1064

TEXT: Scandium carbide phases were produced by reducing scandium oxide with carbon at high temperatures. In contrast to the published methods (R. Vickery, A. Sedlacek, A. Ruben, J. Chem. Soc., 159, 503 (1959); H. Nowotny, H. Kudielka, Monatshefte f. Chemie, 92, 198 (1961)), the mixtures were heated in vacuo with the gaseous products being pumped off continuously. Carbide formation sets in at 1300-1400°C. In the reduction products, the bound carbon content increases as the temperature rises without, however, reaching the calculated ScC value until 1900°C. At 1900-2000°C, the reaction mass dissolves completely, and Sc - C_{total} > 100%. The bound C content is somewhat higher than that of pure ScC. Not even a change in conditions (temperature, heating time) yielded <ScC of the theoretical composition. Under certain conditions, ScC was formed via Card 1/6

metallic scandium. The carbide phase obtained has a cubic face-centered NaCl-type lattice with a = 4.69 Å. This cubic scandium carbide phase has a tendency to absorb oxygen with formation of oxycarbides, to dissolve nitrogen, and to undergo similar effects due to the extraordinarily high unsaturation of the d-shell in the scandium atom. This is confirmed by the high microhardness of the solid solutions of scandium carbide and titanium carbide (Table 1) obtained by the reduction of Sc_2O_3 and TiO_2 mixtures with carbon in vacuo. The optimum composition of the solid solutions of these two carbides corresponds to a particular electron density distribution in the lattice of the solid solutions and to a particular degree of overlapping of the d-level of titanium and scandium. The decrease in the specific conductivity of ScC-TiC solid solutions with increasing TiC content also suggests overlapping of the d-level during the formation of solid solutions. The thermal expansion coefficient of ScC($11.4 \cdot 10^{-6}$) decreases considerably when 20 mole% TiC is dissolved. However, if the TiC content is further increased, the thermal expansion coefficient remains practically constant and very close to that of TiC. The results obtained openup new possibilities for using scandium carbide to improve the hardness of the carbides of other transition metals,

S/020/62/144/005/009/017
Titanium carbide and composite ... B166/B138

us, mainly titanium. There are 3 figures and 1 table. The two English-language references are: (see body of the abstract); W. Rume-Rothery, Inst. Mag., 44, 1136 (1953).

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences UkrSSR)

PRESENTED: January 30, 1962, by A. P. Vinogradov, Academician

SUBMITTED: January 30, 1962

Table 1: Properties of ScC - TiC alloys.
Legend: (1) Composition, mole%; (2) pycnometric density, g/cm^3; (3) microhardness, kgf/mm^2; (4) TiC-base phase; (5) ScC-base phase; (6) specific resistivity, μ ohm·cm; (7) thermal expansion coefficient $\alpha \cdot 10^{-6}$ degree^{-1}.

Card 3/4

MAKARENKO, G.N.

Preparation of lanthanum dicarbide by a vaccum-thermal method.
Zhur. prikl. khim. 36 no.8:1860-1862 Ag '63. (MIRA 16:11)

L 12417-65 EWT(m)/EPF(n)-2/EWP(e)/EPR/EWP(h) Ps-4/Pu-4 JD/JG/MLK/AT/WH

ACCESSION NR: AT4047132 S/0000/64/000/000/0094/0103

AUTHOR: Kosolapova, T. Ya.; Makarenko, G. N. B

TITLE: Preparation of yttrium, scandium and lanthanum carbides and some of their properties

SOURCE: AN UkrSSR. Institut problem materialovedeniya. Redkiye i redkozemel'nyye elementy* v tekhnike (Rare and rare earth elements in engineering). Kiev, Naukova dumka, 1964, 94-103

TOPIC TAGS: yttrium carbide, scandium carbide, lanthanum carbide, carbide structure

ABSTRACT: This is a continuation of previous work by the authors who first established the existence of YC. The crystalline structures of the various yttrium, scandium and lanthanum carbides are given as far as is known, and the rest of the paper is devoted to the physical chemistry of these compounds. The carbides were obtained by reaction of the metal with carbon in vacuo, and the effects of temperature, heating time, etc. on carbide formation and completeness of the reaction were studied. Physical properties were obtained for compact samples prepared by sintering. The figures illustrate that YC was formed at 1800-1900C, Y_2C_3 at 1700-1800C and YC_2 at 1900C. Formation of oxycarbide is also discussed, and the micro-

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L 12117-65

ACCESSION NR: AT4047132

hardness, melting point, thermal expansion coefficient, resistivity, thermal emf and emissivity of these compounds are tabulated. After discussion of the resistivity of the carbides in terms of the C/Y ratio, this is related to the electronic shell structure. The formation of ScC (commencing at 1300-1400C) is discussed in somewhat less detail, and after listing the physical properties of a sintered specimen there is a brief note on lanthanum dicarbide. Orig. art. has: 2 tables, 6 figures and 5 chemical equations.

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute for Problems in Materials Science, AN UkrSSR)

SUBMITTED: 08Jun64 ENCL: 00 SUB CODE: IC, MT

NO REF SOV: 006 OTHER: 009

Card 2/2

L 25630-65 EPR(n)-2/EPR/EWT(m)/EWP(b)/EWP(e)/EWP(t) Ps-4/Pu-4 IJP(c) 36
AT/WH/JD/JG
ACCESSION NR: AP4044546 S/0073/64/030/008/0784/0787 28
B

AUTHOR: Kosolapova, T. Ya.; Makarenko, G. N. [redacted]

TITLE: The preparation and properties of yttrium, lanthanum, cerium and praseodymium dicarbides

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 8, 1964, 784-787

TOPIC TAGS: yttrium dicarbide, lanthanum dicarbide, cerium dicarbide, praseodymium dicarbide, synthesis, property, density, fusion temperature, electric resistance, thermal e.m.f.

ABSTRACT: The possibility of preparing Sc, Y, La, Ce and Pr dicarbides by reducing the corresponding metal oxides with carbon in vacuum was investigated. No ScC_2 was formed in the Sc-C system; only ScC. The optimum conditions for preparing the Y, La, Ce and Pr dicarbides included heating briquets of stoichiometric mixtures (CeO_2 + 4C, and the rest, Me_2O_3 + 7C) in vacuum at 1800-1900C. Manometric studies and chemical and x-ray analyses showed that lower oxides

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L 25630-65
ACCESSION NR: AP4044546

were not formed as intermediate reaction products; they consisted of mixtures of the dicarbides with the higher metal oxides. The density, fusion temperature, electric resistance and thermal e.m.f. of YC_2, LaC_2, CeC_2 and PrC_2 were determined. Atmospheric oxidation of the dicarbides resulted in their partial oxidation and partial reaction with atmospheric moisture. Orig. art. has: 2 tables and 4 figures

ASSOCIATION: Institut metallokeramiki i spetsial'ny*kh splavov AN UkrSSR (Institute of Metalloceramics and Special Alloys, AN UkrSSR)

SUBMITTED: 01Jul63 ENCL: 00 SUB CODE: IC, GC

NR REF SOV: 003 OTHER: 008

Card 2/2

L 31875-66 EWT(m)/ETC(f)/EWP(e)/EWP(w)/ETI/EWP(t)/T IJP(c) AT/WH/GD/JG/JD
ACC NR: AT6013563 SOURCE CODE: UR/0000/65/000/000/0250/0256

AUTHOR: Samsonov, G. V.; Makarenko, G. N.; Krushinskiy, A. N.

ORG: Institute of Material Science Problems, AN UkrSSR (Institut problem materialovedeniya AN SSSR); Kiev Order of Lenin Polytechnic Institute (Kiyevskiy ordena Lenina politekhnicheskiy institut)

TITLE: Investigation of the condition of formation of solid solutions of carbides involving scandium carbide

SOURCE: AN UkrSSR. Institut problem materialovedeniya. Vysokotemperaturnyye neorganicheskiye soyedineniya (High temperature inorganic compounds). Kiev, Naukova dumka, 1965, 250-256

TOPIC TAGS: solid solution, carbide, scandium, scandium compound, nonferrous metal, tungsten, titanium, carbon alloy

ABSTRACT: The conditions of formation of the WC+ScC solid solutions in the WC to ScC mole ratio from 1:4 to 4:1 were investigated in vacuo in the 1000-2000°C range. The formation of WC+TiC+ScC solid solutions was investigated in vacuo and in hydrogen in the 1000-2500°C range. The solid solution products were examined for

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